EIGHTH.

Why on a fatal day, O cruel gale,
Thy sportive spleen on Stella didst thou vent,
When in a gig her rapid course she bent,
Charms so deceitful, why didst thou reveal?
Oh, had some balmly zephyrs gently blown,
Had Stella sought some green sequester'd shade,
Then her deception ne'er had been betray'd,
And her false beauty I should ne'er have known.
Her graceful mien no more I'll idolize.
Malignant gale...O be that day accurst,
When on her lovely form thy anger burst,
And fleeting charms display'd before mine eyes.
Curst be the time, when seated in her gig,
Thou, spite of fillets, blew away her *wig*.

X. Y. Z.

NINTH.

TO C. J. FOX,

27th Dec. 1796.

Chief hope of bleeding England...'tis to thee,
That all whose hearts with honest fervour burn,
For their dear native country; all who spurn
Corruptions gilded chains...and will be free,
To thee th' indignant eyes unceasing turn,
And trust that glorious moment soon to see,
When the fair wreath by patriot virtue won,
Shall bind thy temples...when this suff'ring land,
Scarr'd with a thousand wounds, and half undone,
Shall owe to thee, and thy illustrious band,
That she, from Chatham's base degenerate son,
Is timely rescu'd; ere his faithless hand
With ruffian dagger her best blood shall drain,
While struggling Britons curse their fate in vain.

T. C. B.

TO A RED-BREAST,

MY DAILY VISITOR.

Written in 1798, *while in a state of concealment. The writer succeeded in getting out to America afterwards.*

HAIL, sweetest warbler, Red-breast, dear!
That hover'st round my blest retreat,
Thou com'st my pensive thoughts to cheer,
And eke my rising hopes to greet:
To gild a wretch's lone abode,
Thou hail'st the morn with sportive glee,
And leav'st at eve a lighten'd load
On him, who mourns his liberty.

Ah! happy songster! Red-breast dear!
No tort'ring thoughts possess thy breast,
Thy eye need shed no selfish tear,
Nor fear-form'd visions break thy rest;
No fellow-warbler's ranc'rous soul
For thee doth earthly death decree,
Nor seeks by mean usurp'd controul,
To rob thee of thy liberty.

Why hither led by piercing eye,
With hardy-bill my window beat?
Why thus affright the fluttering fly
That hides from summer's ardent heat?
Does the base wish that bosom fill,
Its keen devourer soon to be?
Ah! no, thou seek'st as heaven's high will,
To grant it's birth-right, liberty.

Come then, soft warbler, Red-breast dear!
Why droop those sympathetic wings?
Why beats that heart with friendly fear?
Lo! hope full fledg'd, exulting springs,
Repeat! repeat thy wood-notes o'er,
Nor from this hallow'd mansion flee:
When tyrant's thunders cease to roar,
I'll share with thee, blest liberty.

DISCOVERIES AND IMPROVEMENTS IN ARTS MANUFACTURES, &c.

Patent of Mr. Joseph Bramah, of Pimlico, Middlesex, Engineer, for a method of making pens.

Dated Sept. 1809.

THE first object of this patent mentiond in the specification, is to make a number of pens of a single quill. Which is effected by

slitting the quill lengthways, by a proper instrument, into two or more equal parts, according to its thickness, cutting each part transversely into two, or more equal lengths, (according to the length of the barrel of the quill) and then making pens at each end of the pieces of quill so divided, which when wanted for use, are each to be attached to a small round stick tapered a little at the end, by a socket, or cylindrical ring, made either of the barrel of a quill, silver or other metal. Each of these pieces having two pens formed on it, one on each end, when one is worn by writing, the other may be brought into use by withdrawing the stick, turning the unused end downwards, and again attaching it to the stick by the socket.

The patentee states that in this manner, he can make of the smallest sized quill, eight complete pens, out of other twelve, and from that to thirty, (and from swans quills even more,) for small hand, drawing and other purposes, equal in durability and goodness to those made of whole quills.

It is obvious that as many classes of pens may be made in this manner, as a quill can be divided into equal parts. The first class of these in which a pen is made at each end of the barrel of a quill cut off from its top, are called by the patentee double compound pens; and the second class, formed of quills slit in two lengthways, are called treble compound pens.

The patentee next describes a new instrument for making pens expeditiously, of which the cutting part is formed so as to resemble what is called a parting tool for carving and engraving wood, with a fine sharp edge projecting in the middle of its angle internally to form the slit of the pen.

This cutting part is formed of two pieces of steel, of three eighths of an inch scantling, by two eighths, with a thin piece of steel, about the thickness of a watch spring, between them to form the slit; the two side pieces, are ground so at their ends, that their edges form an angle, such as it desired for the nib of the pen, and the slitting part in the middle has a quite straight edge. These are fixed together in a frame by a screw, so managed as to either fasten them or release them occasionally, and the whole is connected to the slider of a small fly-press, such as is commonly used for cutting and stamping: and then beneath the cutting point of the instrument, a piece of hard wood or metal is placed, either convex or concave, to receive the half or the segment of a quill, either with the concave or convex side uppermost, as may be found best. This bed for receiving the quill to be cut into a pen, is countershaped exactly to correspond with the end of the cutting instrument, by a cutting stroke, made by the instrument itself, so that there cannot be any error in their contact when in use, which will prevent a ragged cut from being made upon the quill.

This bed is held in its place by being driven tight into a horizontal groove in the bed of the cutting press, so that when the contact with the cutting tool shall become imperfect by use, a small blow with a hammer, or the operation of a regulating screw, shall amend this defect. And by this means, added to the the ready manner in which the pieces of steel, that form the cutter, may be taken out of the frame and sharpened, the engine can be continually kept in a state of perfection with little trouble.

The pens are not to be nibbed by the machine, but when the parts

of the divided quills are cut into lengths, they are to be cut both square and clean enough to answer for the point; by which means, in the operation of forming the pen, by forcing the quill a little more or less near the junction of the triangular mouth of the cutters, the width of the pens point will be encreased or diminished in its dimensions; so that by a nice adjustment in this respect, pens calculated for every kind of hand may be cut with strict accuracy.

The last object of the patent is to secure the right of different fountain-pens, which may be combined with the pens already described. The first mentioned of these is formed of a hollow tube of silver, or other metal, closed at both ends, and made so thin as to be readily compressed, by a small pressure between the finger and thumb, out of a cylindrical form; by which pressure the internal space of the tube being lessened, the ink which it contains will be compelled to ooze out of a small capillary opening made at its lower extremity for this purpose. Pens prepared as above described, are fastened to these tubes by sockets, in the same manner as to the sticks before mentioned. The lower ends of these tubes are made tapering, to admit the pens to be fastened on them better, and the upper ends are made to open, in order to admit the ink; while this is pouring in, the capillary opening at the bottom must be stopped; and when the tube is full, the upper end must be closed air-tight with a cork or cap, which will prevent any ink running out into the pen, more than is directed by the pressure of the thumb, when it is placed in a fit position for writing.

Another kind of ink fountains, the patentee mentions may be made of inflexible metal tubes, furnished with small sliding pistons, like those of forcing pumps, by impelling which downwards, by the hand or a screw, the ink may be made to pass into the pen.

A fountain pen, of the same nature as that first described, the patentee mentions may be made of a common goose-quill, made sufficiently soft by scraping to admit of compression, if it is not so naturally; a small stopper is made to fit into the lower end of this quill, with a minute groove in its upper part, next the back of the pen, not larger than what the smallest pin would occupy, so as to cause the least channel possible for the conveyance of the ink to the pen; this quill may be either formed into a pen at its end, or have one of the above described pens attached to it by a socket; the ink is to be poured in at its lower end, and, when the stopper is put into its place, it is ready for use. Care must be taken that the quill is air tight, or made so; as otherwise the ink would run out. When the ink ceases to flow, from the air becoming too much rarified above the ink, in this fountain pen, or the first described, by turning the pen with the point upwards, sufficient air will be drawn into the cavity through the capillary aperture, to restore the balance with the outward air, and make the ink flow freely again.

Lastly the patentee proposes, that the pens of several writing at one desk, may be supplied from a vessel on a shelf over head, from which small pipes shall pass, each, furnished with a cock, to the station of each writer, so that he can fill his fountain pen without moving from his seat: and as a farther improvement, states, that small flexible tubes may be made to pass from these pipes to the fountain pens in the writer's hands, so that they shall always be supplied with ink, without any farther

care than opening and shutting the cocks. The lower ends of these flexible tubes are to be fastened to the tops of the hollow handles of the pens, by hollow screws, like that of the brass nozzle of a fire-engine.

In some cases, instead of the methods above described for letting down the ink from the hollow handle into the pen, the patentee prefers to make a small perforation, for the admission of air, in the upper extremity of the handle; which aperture is stopped or opened by a valve or slide: when it is open the ink will descend, and charge the pen at pleasure, but when stopped, its farther flowing will be prevented.

Observations.—The method of forming many pens of one quill thus brought into notice by its ingenious author, (to whom the public are indebted for many useful discoveries, and several beneficial applications of former inventions,) is of more importance than might at first appear; for it evidently will form a material addition to the plan for diminishing the expences of educating poor children, by which Dr. Bell and Mr. Lancaster have done themselves so much credit; and which many benevolent men of judgment and experience have most sanguine hopes, will produce a most material amelioration in the morals, prudential conduct, and consequent happiness of the labouring part of society; if carried forward to the extent, which the interest they excite so justly promises. The value of this invention for this purpose may perhaps appear more clearly, by stating that the expences of educating children is reduced by the methods mentioned, to so small a sum annually for each, that the saving produced in a few hundreds of quills by adopting Mr. Bramah's plan, will probably be sufficient to pay for the instruction of a child additional.

Another saving advantageous to the same object, will arise from the economising the time of masters, now spent in making pens, by the use of the machine for this purpose herein described. Mr. Lancaster, in his lectures on his method of teaching, has always stated a saving in this respect to be an object of considerable consequence, and recommended for this use an instrument very inferior in accuracy and facility of reparation, to the above, but which was the best before this was contrived.

It is obvious however, that this machine may be much simplefied, as there can be no need of the force of a screw-press, to cut part of a quill. A small lever to press down the sliding cutter, and a spring to raise it again, would be all that would be necessary; the first more to make the motion steady than for the sake of gaining power, and the latter for convenience.

In what the patentee states, of forming the divided pieces of a quill into pens at both ends, he does not seem aware that nearly one third of the upper part of most quills is unfit for this purpose, on account of its splitting with serrated edges, commonly called *cat's teeth*; but this, though it forms some deduction, does not materially diminish the value of the invention.

Among the fountain pens the patentee mentions one (formed by a tube and sliding piston) as his invention, which has long been before the public as the contrivance of Mr. David Leroy, a French gentleman; and of which an account was given in the Athenæum for December 1807, translated from Sonini's *Encyclopedie des Arts*. But it is probable that Mr. Bramah never heard of this; for it can scarcely be thought that a plagiarism so easily detected in such an unimportant matter,

would have been risked by him intentionally.

The last plan proposed by the patentee for supplying pens with ink, is liable to obvious objections; for it would both greatly endanger the blotting and defacing account-books and other papers of importance, which might lie on the desks, in case of the breaking any of the metal pipes, or mismanageing the cocks; and would add so much resistance to the motion of the pen, by the weight of the flexible tube, as in all probability would tire the hand with a much less portion of writing than would be the case with pens not thus encumbered.

Making the fountain pen act by compression, seems a valuable improvement, and promises to come into such general use as, added to the sale of the machines for making pens, to recompense the patentee for his trouble and expense; means will probably be soon devised to regulate the expansion of the air from an encrease of temperature, which when much air is in the tube, would cause the ink to flow out, and then the only remraining inconvenience to which this pen is liable will be removed.

Patent of Mr. David Meade Randolph, of Golden-square, Middlesex, for a method of manufacturing boots, shoes, and other articles, with a substitute for thread or yarn.

Dated Feb. 1809.

The substitute for yarn in making boots and shoes, consist of small brads, sprigs, or tacks, made of copper, iron or other proper metals, applied in forming the soles and heels alone, principally by the use of a last, constructed with an iron sole about the thickness of common sole leather. This iron sole has three holes made through it, about an inch in diameter, one near the toe, another about half-way between the toe and the heel, and a third in the heel; which holes are filled up level with wooden plugs, and are made for the purpose of fastening the boot or shoe to the last, in the usual manner while making. When the upper-leather and inner-sole are placed on a last of this description, the outer-sole is nailed to the inner-sole by brads of such a length, as will allow them to perforate the inner sole, with which the metal sole of the last being in close contact, it turns and clinches them so as to present a smooth surface inside; and the brads thus connect the two soles so as to serve instead of stitching or sewing them. This new method is not limited to the edge or margin of the sole, but can be also applied to any intermediate space, where strength and durability may be deemed requisite.

Another application of the same principle, with some addition, is mentioned by the patentee at the end of the specification, in the following words. I also apply as a substitute for yarn, &c. in the fabrication of braces, traces, or other articles to which the same can be usefully applied, and in place of stitching, wires made of iron, brass, or copper, or other fit metal. These wires I use lengthways, by stretching them the whole length of the trace or brace; and they are fastened at each end round small metal cylinders, inclosed between plates of leather, connected, by means of the substitute mentioned.

Some account of experiments on different kinds of charcoal, for improving the manufacture of gunpowder, and of the slowness of combustion of chesnut wood, extracted from a paper by M. Proust.

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